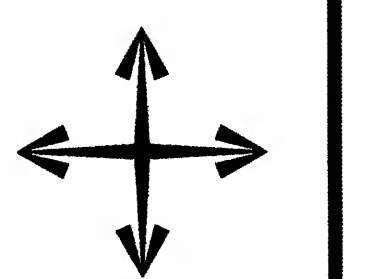


FILENAME:
COMPENG2

DRAWN BY:
SCOTT ROBERTSON

COMPRESSOR-TO-ENGINE
CONVERSION SYSTEM
CONVERTS AIR COMPRESSOR TO AIR ENGINE

PNEUMATIC OPTIONS
1430 Willamette #561
Eugene, OR 97401

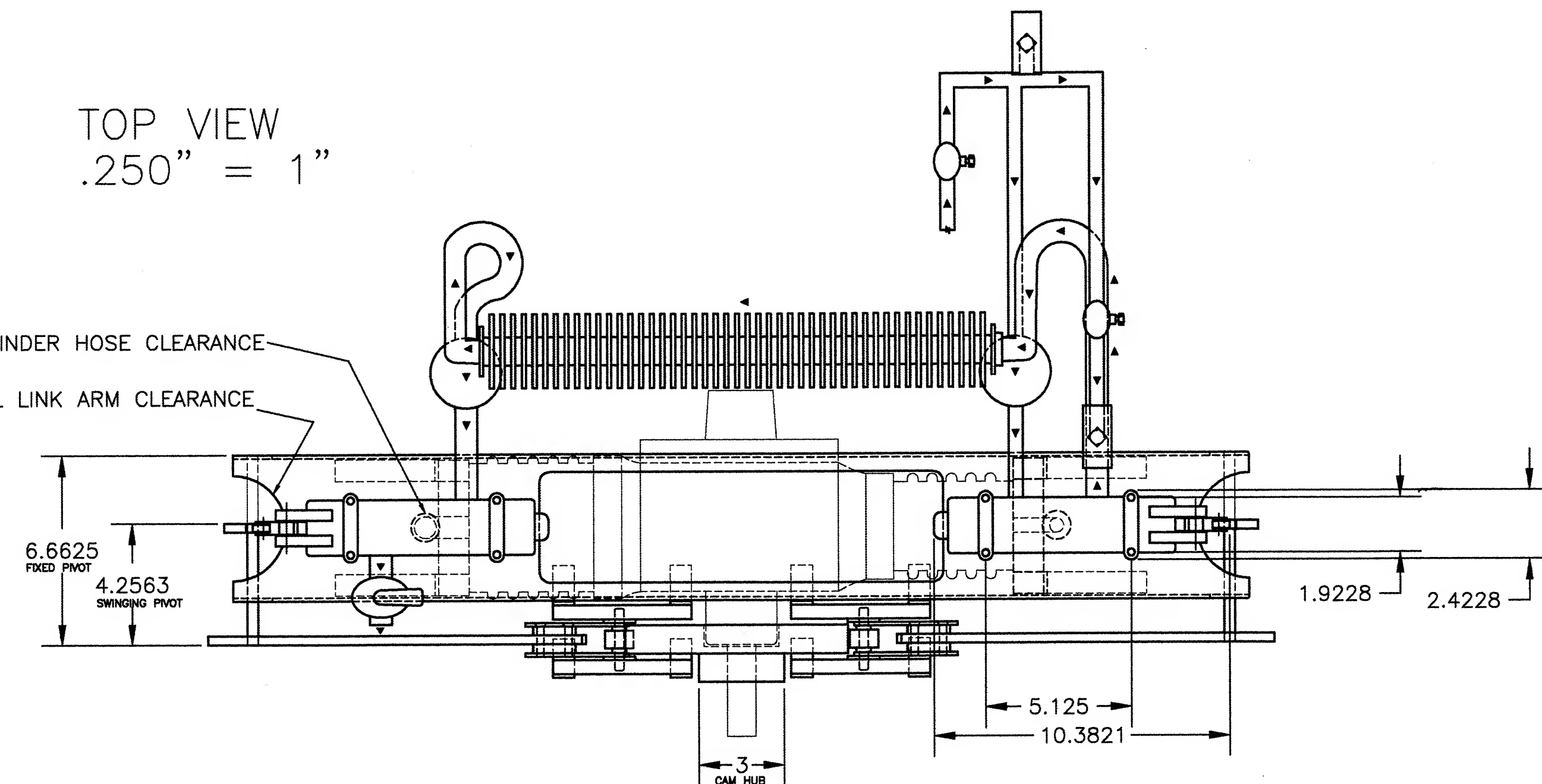


CAD 2
8/11/98

SUMMER
1998

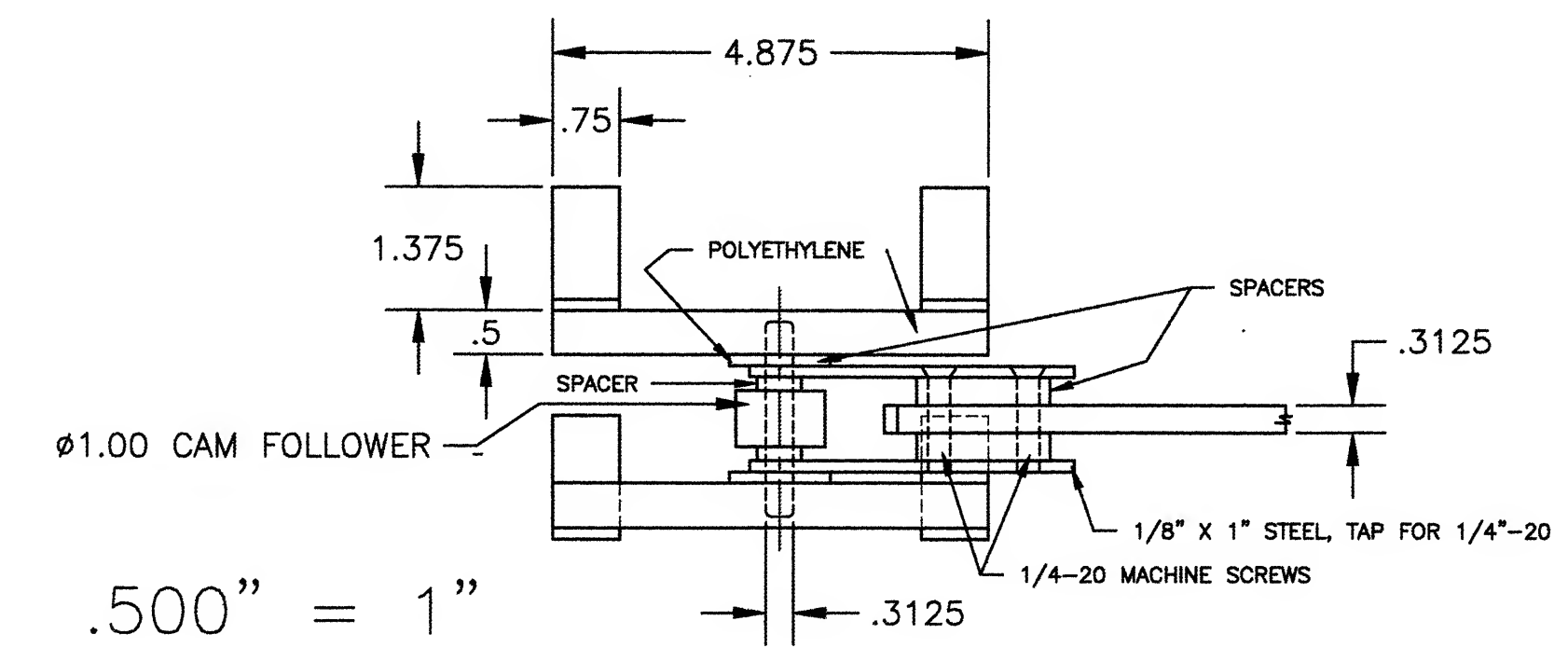
TOP VIEW
.250" = 1"

CUT OUT FOR CYLINDER HOSE CLEARANCE
CUT OUT FOR VERTICAL LINK ARM CLEARANCE



NOT SHOWN IN TOP VIEW:
COMPRESSOR BASE

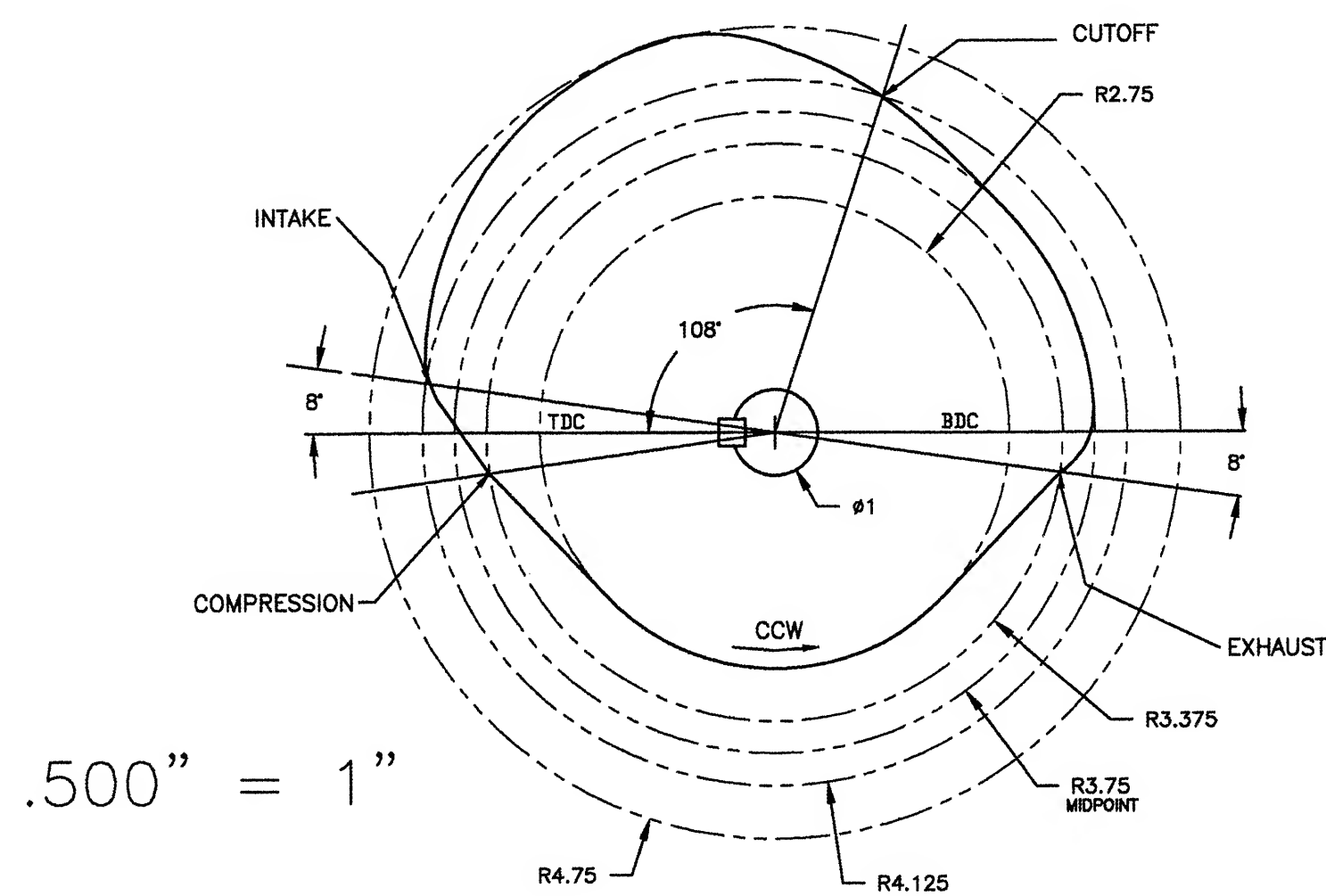
NOT SHOWN IN ANY VIEW:
FASTENERS
PIVOT BEARINGS
PLUMBING DETAILS



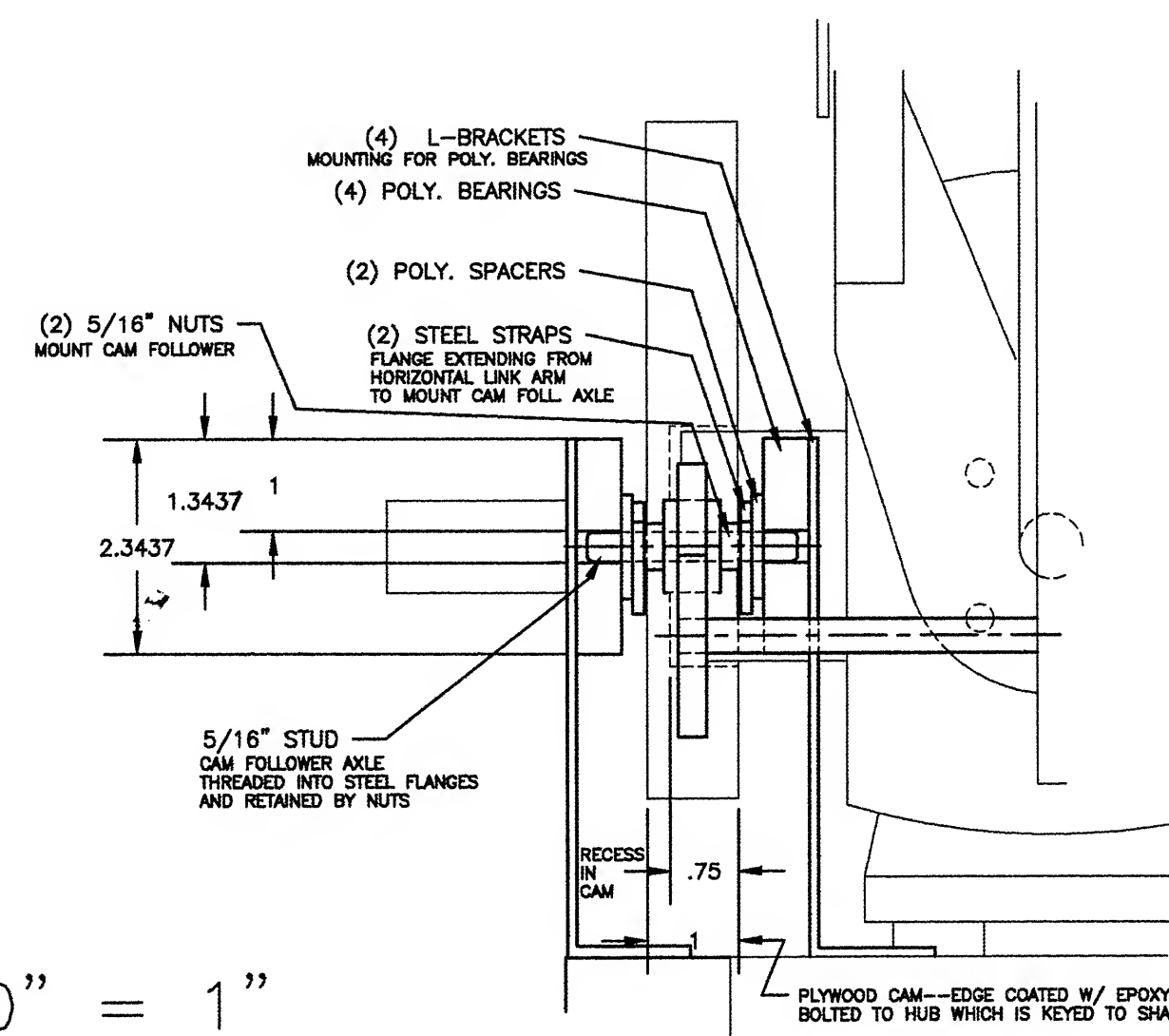
DETAIL A
LINEAR BEARING FOR CAM FOLLOWER AXLE
TOP VIEW

VALVE-OPERATION LINKAGE
DESIGN NOTES

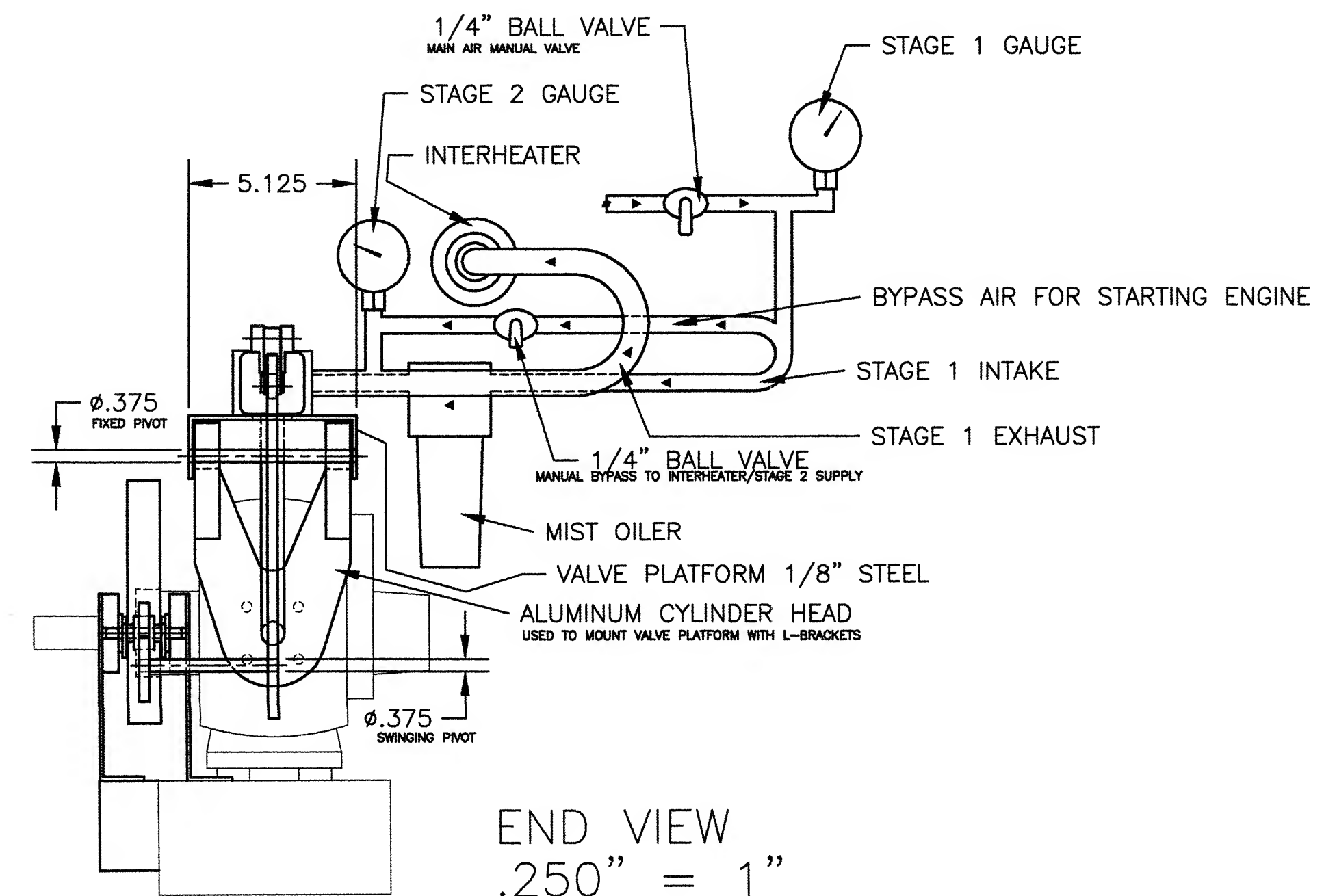
1. CONTACT POINT TO FIXED PIVOT = X;
FIXED PIVOT TO SWINGING PIVOT = 3X
2. CAM CONTACT TO SWINGING PIVOT IS THE
DISTANCE REQUIRED TO LOCATE VERTICAL
LINK ARM VERTICALLY AT VALVE MID-STROKE
FOR MAX. VALVE-OP TORQUE (AS SHOWN)
3. CONTACT POINT, FIXED PIVOT, AND SWINGING
PIVOT ARE LOCATED COLINEARLY ON
VERTICAL LINK ARM
4. WORKING EDGE OF VERTICAL LINK ARM IS
SHAPE TO KEEP CONTACT POINT AS CLOSE
AS POSSIBLE TO DISTANCE X FOR ALL RELATIVE
POSITIONS OF VALVE AND LINK ARM
5. CAM HIGH LOBE RADIUS MINUS LOW LOBE RADIUS
= 3X TOTAL VALVE TRAVEL; THIS VALVE HAS
MAX. TRAVEL OF 3/4", AND IS BEING USED AT
WORKING TRAVEL OF 2/3"; CLOSED CENTER
TRAVEL 1/4" + INTAKE TRAVEL .2083" + EXHAUST
TRAVEL .2083" = 2/3"; CAM LOBES 4.75" - 2.75
= 2/3" X 3 = 2"
6. VALVE OPERATION COULD BE IMPROVED IN THE
FOLLOWING WAYS: (A) THE AXIS OF THE CAM
FOLLOWERS SHOULD BE OFFSET FROM THE CENTER
LINE OF THE CAM, REQUIRING RAISING/LOWERING OF
THE TWO VALVE/VALVE-OP. ASSEMBLIES; (B) THE
CAM COULD BE REPLACED WITH AN ECCENTRIC,
AS USED IN STEAM ENGINES, ELIMINATING THE
NEED FOR RETURN SPRINGS IN THE VALVES, AND
REQUIRING COMPLETE RE-DESIGN OF THE LINKAGES



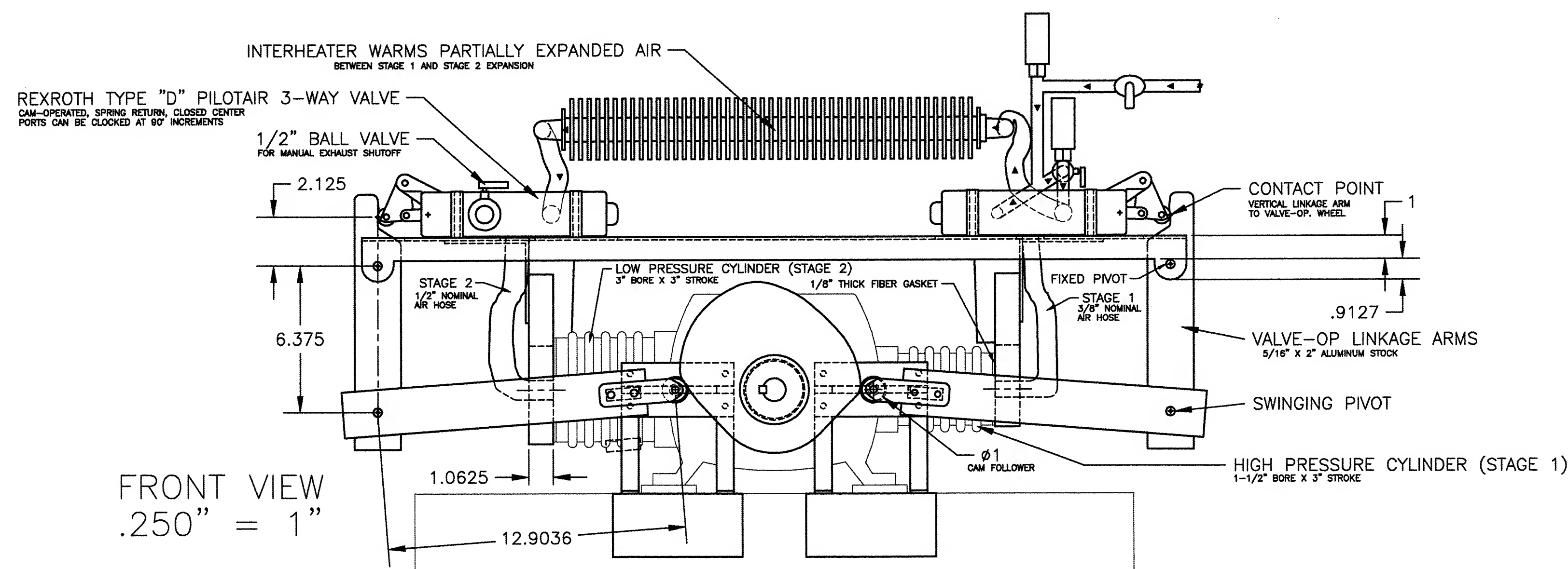
CAM SHAPE
BASED ON VALVE EVENTS



DETAIL B
LINEAR BEARING FOR CAM FOLLOWER AXLE
END VIEW



END VIEW
.250" = 1"



FRONT VIEW
.250" = 1"